

Results of Directional Survey

API number:	30-005-27975		
OGRID:		Operator:	COG OPERATING LLC
		Property:	ANDROMEDA 14 FEDERAL COM # 1H

surface	ULSTR:	A	14	T 15S	R 31E
			660 FNL	330 FEL	

BH Loc	ULSTR:	D	14	T 15S	R 31E
			708 FNL	4956 FEL	

Top Perf/OH	ULSTR:	A	14	T 15S	R 31E
		9221	649 FNL	892 FEL	

Bot Perf/OH	ULSTR:	D	14	T 15S	R 31E
		12836	706 FNL	4505 FEL	

	MD	N/S	E/W	VD
	9217	11.21	-557.73	8861.87
TOP PERFS/OH	9221	11.12	-561.73	8861.92
	9253	10.40	-593.71	8862.31
	12794	-45.07	-4132.71	8814.08
BOT PERFS/OH	12836	-45.69	-4174.70	8814.38
	12858	-46.02	-4196.70	8814.53

NEXT TO LAST	13178	-48.08	-4516.67	8817.93
LAST READING	13227	-48.08	-4565.66	8818.79
TD	13287	-48.08	-4625.65	8819.84

Surface Location	660 FN	330 FE
Projected BHL	708 FN	4956 FE
Location of		
Top Perfs/OH	649 FN	892 FE
Bottom Perfs/OH	706 FN	4505 FE

SUMMARY of Subsurface Locations

Surface Location	A-14-15S-31E	660 FN	330 FE	Vert. Depth
Top Perfs/OH	A-14-15S-31E	649 FN	892 FE	8861.92
Bottom Perfs/OH	D-14-15S-31E	706 FN	4505 FE	8814.38
Projected TD	D-14-15S-31E	708 FN	4956 FE	8819.84